

## Patent Abstracts of Japan

PUBLICATION NUMBER : 11003725  
PUBLICATION DATE : 06-01-99  
  
APPLICATION DATE : 09-06-97  
APPLICATION NUMBER : 09168132

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INT.CL. : H01M 8/10 H01M 8/02

TITLE : DIRECT TYPE METHANOL FUEL CELL HAVING SOLID POLYMER ELECTROLYTE

ABSTRACT : PROBLEM TO BE SOLVED: To reduce a crossover of methanol and to prevent drop in catalytic activity of a positive electrode by including a mixed solution of alcohol other than methanol and water in a solid polymer electrolyte.

SOLUTION: A catalyst dispersion solution is applied to the surface of carbon paper which is water repellent treated, and air dried to form a catalyst layer on one side of the carbon paper to form a positive electrode and a negative electrode. A Nafion (R) 115 film is interposed between the positive electrode and the negative electrode, so that the surface of the catalyst is faced to the Nafion film, and they are jointed with a hot press to form an electrode/ electrolyte film jointed body. Air is supplied to the positive electrode and an aqueous methanol solution is supplied to the negative electrode to regulate the movement of methanol to the mixed solvent layer in a solid polymer electrolyte, the solubility of the methanol contained in the solvent of the solid polymer electrolyte is kept low, and the amount of the methanol reaching the positive electrode is made small. As a result, the catalytic activity of the positive electrode is kept in the original state, and the deterioration in battery characteristics is prevented.

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